WHAT IS CLAIMED IS:

1. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements having at least one curved surface and at least one planar surface for redistributing light along two different axes, at least some of the optical elements overlapping each other.

2. The film of claim 1 wherein at least some of the optical elements are staggered with respect to each other.

3. The film of claim 1 wherein at least some of the optical elements intersect each other.

4. The film of claim 1 wherein at least some of the optical elements interlock each other.

5. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements having at least one curved surface and at least one planar surface for redistributing light along two different axes, the curved surface of at least some of the optical elements having a different perimeter shape than a perimeter shape of the planar surface.

6. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements comprising non-prismatic elements having at least one curved surface and at least one planar surface for redistributing light along two different axes.

7. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements having only two surfaces, one of which is curved and the other of which is planar for redirecting light along two different axes.

8. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements having a total of three surfaces, at least one of the surfaces being curved and at least one other of the surfaces being planar for redirecting light along two different axes.

9. A light redirecting film comprising a thin optically transparent substrate having individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements varying in at least one of the following characteristics: slope angle, density, position, orientation, height or depth, shape, and size, to tailor the film to the light ray output distribution of different backlights.

10. The film of claim 9 wherein at least some of the optical elements vary in a predetermined pattern to redistribute light within a desired optical distribution.

11. The film of claim 9 wherein at least some of the optical elements are of a different type.

12. The film of claim 9 wherein at least some of the optical elements have at least one curved surface.

13. The film of claim 9 wherein at least some of the optical elements have at least one curved surface and at least one flat surface.

14. The film of claim 9 wherein at least some of the optical elements are randomly distributed across the substrate.

15. The film of claim 9 wherein at least some of the optical elements have only one surface which is curved and angled to intersect the substrate.

16. The film of claim 15 wherein at least some of the optical elements are in the shape of a cone.

17. The film of claim 15 wherein at least some of the optical elements have a semispherical shape.

18. A light redirecting film comprising a thin optically transparent substrate having a radial type pattern of optical elements to redistribute light passing through the substrate toward a direction normal to the substrate.

19. The film of claim 18 wherein the optical elements are curved along their length.

20. A light redirecting film comprising a thin optically transparent substrate having a pattern of individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements being arranged in groupings across the substrate, at least some of the optical elements in each of the groupings varying in at least one of the following characteristics that collectively produce an average characteristic for each of the groupings: size, shape, position, depth or height, slope angle, orientation, and density.

21. The film of claim 20 wherein the average characteristic for each of the groupings varies across the substrate.

22. A light redirecting film comprising a thin optically transparent substrate having a pattern of individual optical elements of well defined shape to redistribute light passing through the substrate toward a direction normal to the substrate, at least some of the optical elements having at least two different shaped surface perimeters.

23. The film of claim 22 wherein all of the different shaped surface perimeters are planar.

24. The film of claim 22 wherein one of the different shaped surface perimeters is curved.

25. The film of claim 22 wherein at least one of the different shaped surface perimeters is planar and at least an other of the different shaped surface perimeters is curved.

26. The film of claim 22 wherein at least some of the optical elements are oriented at different angles across the film.

27. The film of claim 22 wherein at least some of the optical elements overlap each other.

28. The film of claim 27 wherein at least some of the optical elements intersect each other.

29. The film of claim 27 wherein at least some of the optical elements interlock each other.

30. The film of claim 27 wherein at least some of the optical elements are staggered with respect to each other.

31. The film of claim 22 wherein the size of at least some of the optical elements varies across the film.

32. The film of claim 22 wherein the density of at least some of the optical elements varies across the film.

33. The film of claim 22 wherein at least some of the optical elements have a total of two surfaces, both of which are angled.

34. The film of claim 33 wherein one of the angled surfaces is flat and the other of the angled surfaces is curved.

35. The film of claim 22 wherein at least some of the optical elements have a pair of oppositely angled sides and a pair of oppositely curved ends.

36. The film of claim 35 wherein the oppositely angled sides intersect each other.

37. The film of claim 35 wherein at least some of the optical elements have a curved top intersecting the oppositely angled sides and oppositely curved ends.

38. The film of claim 22 wherein at least some of the optical elements have an angled surface that varies in area across the film.

39. The film of claim 22 wherein at least some of the optical elements have a uniform depth or height.

40. The film of claim 22 wherein at least some of the optical elements vary in depth or height across the film.

41. The film of claim 22 wherein at least some of the optical elements vary in density across the film.

42. The film of claim 22 wherein at least some of the optical elements vary in size across the film.

43. The film of claim 22 wherein the orientation of at least some of the optical elements varies across the film.

44. The film of claim 22 wherein at least some of the optical elements have angled surfaces that intersect the substrate at different angles.

45. The film of claim 22 wherein at least some of the optical elements have angled surfaces that vary in height or depth across the film.

46. The film of claim 22 wherein at least some of the optical elements are arranged in groupings across the film, at least some of the optical elements in each of the groupings having at least one different shape characteristic that collectively produces an average shape characteristic for each of the groupings.

47. The film of claim 46 wherein the average shape characteristic of at least some of the groupings varies across the film.

48. The film of claim 46 wherein at least some of the optical elements in each of the groupings have a different depth or height that collectively produce an average depth or height characteristic for each of the groupings.

49. The film of claim 48 wherein the average depth or height characteristic for at least some of the groupings varies across the film.

50. The film of claim 46 wherein at least some of the optical elements in each of the groupings have a different slope angle that collectively produce an average slope angle for each of the groupings.

51. The film of claim 50 wherein the average slope angle for each of the groupings varies across the film.

52. The film of claim 46 wherein at least some of the optical elements in each of the groupings have a different orientation that collectively produce an average orientation for each of the groupings.

53. The film of claim 52 wherein the average orientation for at least some of the groupings varies across the film.

54. The film of claim 52 wherein at least some of the optical elements in each of the groupings have at least one sloping surface that is planar.

55. The film of claim 46 wherein at least some of the optical elements in each of the groupings have a different width or length that collectively produce an average width or length for each of the groupings.

56. The film of claim 55 wherein the average width or length for at least some of the groupings varies across the film.

57. The film of claim 22 wherein the optical elements comprise depressions in or projections on the substrate.

58. The film of claim 22 wherein at least some of the optical elements are oriented at different angles across the substrate for redirecting light along different axes.

59. The film of claim 22 wherein at least some of the optical elements include a combination of planar and curved surfaces that redirect the light along different axes.

60. The film of claim 59 wherein the ratio of the areas of the planar and curved surfaces is selected to produce a desired viewing angle.

61. The film of claim 22 wherein at least some of the optical elements include a combination of planar and curved surfaces, with the curved surfaces oriented to redirect a portion of the light in a plane parallel to the planar surfaces.

62. The film of claim 22 wherein the substrate has à light entrance surface that is smooth.

63. The film of claim 22 wherein the substrate has a light entrance surface coated with an optical coating.

64. The film of claim 22 wherein the substrate has a light entrance surface with a matte or texture finish.

65. The film of claim 22 wherein the individual optical elements are on opposite sides of the substrate.

66. A light redirecting film comprising a thin optically transparent substrate having a light entrance surface for receiving light from a backlight, and a light exit surface having a pattern of individual optical elements of well defined shape, at least some of the optical elements being of a size that is quite small in comparison to the width and length of the substrate and differing in size or shape to redistribute more of the light emitted by a backlight.

67. The film of claim 66 wherein at lest some of the optical elements are oriented at different angles relative to each other to redistribute more of the light emitted by a backlight within a desired viewing angle.

68. A light redirecting film system comprising a backlight having a light emitting panel member including at least one input edge for receiving light from a light source, and at least one panel surface for emitting light, and a light redirecting film in close proximity to the panel surface for receiving light emitted by the panel surface, said light redirecting film having a pattern of individual optical elements of well defined shape to redistribute the light emitted by the panel surface toward a direction normal to the film, the size or shape of the optical elements being tailored to redistribute more of the light emitted by the panel surface within a desired viewing angle.

69. The system of claim 68 wherein at least some of the optical elements are oriented at different angles.

70. The system of claim 68 wherein at least some of the optical elements have different slope angles.

71. The system of claim 68 wherein at least some of the optical elements include a combination of planar and curved surfaces.

72. The system of claim 71 wherein the ratio of the areas of the planar and curved surfaces is selected to produce a desired viewing angle.

73. The system of claim 68 wherein at least some of the optical elements are oriented at different angles across the film to redistribute the light along two different axes.

74. The system of claim 68 wherein at least some of the optical elements overlap each other.

75. The system of claim 74 wherein at least some of the optical elements intersect each other.

76. The system of claim 74 wherein at least some of the optical elements interlock each other.

77. The system of claim 74 wherein at least some of the optical elements are staggered with respect to each other.

78. The system of claim 68 wherein the size of at least some of the optical elements varies across the film.

79. The system of claim 68 wherein the density of the optical elements varies across the film.

80. The system of claim 68 wherein at least some of the optical elements are arranged in groupings across the film, at least some of the optical elements in each of the groupings having a different size or shape characteristic that collectively produce an average size or shape characteristic for each of the groupings.

81. The system of claim 80 wherein at least some of the optical elements in each of the groupings have a different depth or height that collectively produce an average depth or height characteristic for each of the groupings.

82. The system of claim 80 wherein at least some of the optical elements in each of the groupings have a different slope that collectively produce an average slope characteristic for each of the groupings.

83. The system of claim 80 wherein at least some of the optical elements in each of the groupings have a different orientation that collectively produce an average orientation characteristic for each of the groupings.

84. The system of claim 80 wherein at least some of the optical elements in each of the groupings have a different width or length that collectively produce an average width or length characteristic for each of the groupings.

85. The system of claim 80 wherein the optical elements comprise depressions in or projections on the film.

86. The system of claim 68 wherein the panel member has a pattern of individual optical deformities that produce a light ray output distribution that varies at different locations on the panel surface.

87. The system of claim 86 wherein at least some of the deformities of the panel member have a sloping surface that is oriented to face an optically coupled area of the input edge across the panel member.

88. The system of claim 86 wherein the area of the sloping surface of at least some of the deformities of the panel member varies across the panel member to attain a desired light output distribution from the panel surface.

89. The system of claim 86 wherein at least some of the deformities of the panel member are arranged in groupings across the panel member, with at least some of the deformities in each of the groupings having a different size or shape characteristic that collectively produce an average size or shape characteristic for each of the groupings.

90. The system of claim 89 wherein at least some of the deformities in each of the groupings have a different depth or height that collectively produce an average depth or height characteristic for each of the groupings.

91. The system of claim 89 wherein at least some of the deformities in each of the groupings have a different slope angle that collectively produce an average slope angle characteristic for each of the groupings.

92. The system of claim 89 wherein at least some of the deformities in each of the groupings have a different orientation that collectively produce an average orientation characteristic for each of the groupings.

93. The system of claim 89 wherein at least some of the deformities in each of the groupings have a different width or length that collectively produce an average width or length characteristic for each of the groupings.

94. The system of claim 68 further comprising at least one light source optically coupled to the input edge, the deformities of the panel member being arranged in rows extending radially relative to an area of the input edge to which the light source is optically coupled.

95. The system of claim 87 wherein at least some of the deformities of the panel member have at least one additional surface for reflecting or refracting light impinging on the additional surface in different directions to spread light across the panel surface to provide a more uniform distribution of light emitted by the panel surface.

96. The system of claim 89 wherein the sloping surface is planar and the additional surface is curved.

97. A light redirecting film system comprising a backlight having deformities that cause light to be emitted in a predetermined light array output

distribution from the backlight, and a light redirecting film in close proximity to the backlight, the film having individual optical elements that work in conjunction with the deformities of the backlight to produce an optimized output light ray angle distribution from the system.

98. A light redirecting film system comprising a backlight including a panel surface having a light ray output distribution that varies at different locations on the panel surface, and a light redirecting film in close proximity to the panel surface, the light redirecting film having a pattern of optical elements that varies at different locations on the film to redistribute the light ray output distribution from the different locations on the panel surface toward a direction normal to the film.

99. The system of claim 98 further comprising a liquid crystal display in close proximity to the film, the variations in the pattern of optical elements on the film causing a change in the angle of the light ray output distribution from the panel surface to make the light ray output distribution more acceptable to travel through the liquid crystal display.

100. The system of claim 98 wherein at least some of the optical elements have at least two different shaped surface perimeters.

101. The system of claim 98 wherein the optical elements comprise at least one of the following: V grooves, prismatic grooves, and lenticular grooves.

102. The system of claim 100 wherein the one different shaped surfaces is planar.

103. The system of claim 102 wherein the other of the different shaped surfaces is curved.

104. The system of claim 98 wherein at least some of the optical elements overlap each other.

105. The system of claim 104 wherein at least some of the optical elements intersect each other.

106. The system of claim 104 wherein at least some of the optical elements interlock each other.

107. The system of claim 104 wherein at least some of the optical elements are staggered with respect to each other.

108. The system of claim 98 wherein at least some of the optical elements are oriented at different angles for redirecting light along two different axes.

109. The system of claim 98 wherein the size of at least some of the optical elements varies across the film.

110. The system of claim 98 wherein the shape of at least some of the optical elements varies across the film.

111. The system of claim 98 wherein the height or depth of at least some of the optical elements varies across the film.

112. The system of claim 98 wherein the position of at least some of the optical elements varies across the film.

113. The system of claim 98 wherein the density of the optical elements varies across the film.

114. The system of claim 98 wherein the optical elements are arranged in a pattern that is tailored to redistribute the light ray output distribution of a backlight that receives light from one cold cathode fluorescent light bulb toward a direction normal to the film.

115. The system of claim 98 wherein the optical elements are arranged in a pattern that is tailored to redistribute the light ray output distribution of a backlight that receives light from two or more cold cathode fluorescent light bulbs toward a direction normal to the film.

116. The system of claim 98 wherein the optical elements are arranged in a pattern that is tailored to redistribute the light ray output distribution of a backlight that receives light from a single light emitting diode.

117. The system of claim 98 wherein the optical elements are arranged in a pattern that is tailored to redistribute the light ray output distribution of a backlight that receives light from a plurality of light emitting diodes.

118. The system of claim 98 wherein the optical elements are arranged in a pattern that is tailored to redistribute the light ray output distribution of a backlight that receives light from perimeter lighting.

119. The system of claim 98 wherein the optical elements are arranged in a radial type pattern that is tailored to redistribute the light ray output distribution of a backlight that is corner lit.

120. The system of claim 98 wherein the optical elements are arranged in a radial type pattern that is tailored to redistribute the light ray output distribution of a backlight that is lighted by a single focused light source.

121. The system of claim 120 wherein the light source is a light emitting diode.

122. A reflective liquid crystal display and a light redirecting film in close proximity to the reflective liquid crystal display, the light redirecting film having a pattern of individual optical elements of well defined shape to increase the brightness of the reflective liquid crystal display, at least some of the optical elements varying in at least one of the following characteristics: size, shape, position, slope angle, height or depth, pattern, orientation and density.

123. A transflective liquid crystal display and a light redirecting film in close proximity to the transflective liquid crystal display, the light redirecting film having a pattern of individual optical elements of well defined shape to increase the brightness of the transflective liquid crystal display, at least some of the optical elements varying in at least one of the following characteristics: size, shape, position, slope angle, height or depth, pattern, orientation and density.

124. A method of selecting a light redirecting film for a particular application comprising the steps of providing a length of the film having a repeating pattern of optical deformities that varies along the length of the pattern, selecting an area of the pattern that best suits a particular application, and removing the selected area from the length of film.

125. The method of claim 124 wherein the selected area is die cut from the length of film.

126. The system of claim 124 wherein the length of film comprises a roll of the film from which the selected area is removed.

127. A method of selecting a light redirecting film for a particular application comprising the steps of providing a length of the film having a pattern of optical deformities that varies along the length of the pattern, selecting an area of the pattern that best suits a particular application, and removing the selected area from the length of film.